UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

VIA ELECTRONIC MAIL
DELIVERY RECEIPT REQUESTED

Lacy Ballard, District Manager
Waste Connections Winnebago Landfill
8403 Lindenwood Road
Rockford, IL 61109
Lacy.Ballard@WasteConnections.com

Re: Finding of Violation
Winnebago Landfill
Rockford, IL

Dear Lacy Ballard:

The U.S. Environmental Protection Agency is issuing the enclosed Finding of Violation ("FOV") to Waste Connections ("you"), owner of the Winnebago Landfill Company, which operates the Winnebago Landfill, under Section 113(a) of the Clean Air Act, 42 U.S.C. § 7413(a). We find that you are violating the New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants for municipal solid waste landfills, as well as conditions of permits issued to you by the Illinois EPA at your facility in Rockford, Illinois.

Section 113 of the Clean Air Act gives us several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order, and bringing a judicial civil or criminal action.

We are offering you an opportunity to confer with us by teleconference about the violations alleged in the FOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply, and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the FOV prior to the conference date.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The EPA contact in this matter is Emma Leeds. You may call her at (312) 886-7436 or email her at Leeds.Emma@epa.gov to request a conference. For legal questions, please contact Justin Berchiolli, EPA attorney, at Berchiolli.Justin@epa.gov or (312) 353-8640. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

Frank, Nathan

Digitally signed by Frank, Nathan
Date: 2022.09.29 12:28:01 -05'00'

Nathan Frank
Supervisor, Air Enforcement and Compliance Assurance Section (IL/IN)

cc: Kent Mohr, Manager
Compliance Section
Bureau of Air
Illinois Environmental Protection Agency
Kent.Mohr@illinois.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	
Winnebago Landfill	)	**FINDING OF VIOLATION**
Rockford, Illinois	)	
	)	**EPA-5-22-IL-19**
Proceedings Pursuant to	)	
the Clean Air Act,	)	
42 U.S.C. § 7401 *et seq*.	)	
	)	

FINDING OF VIOLATION

The U.S. Environmental Protection Agency finds that the Waste Connections Winnebago Landfill is violating Sections 111(e) and 112 of the Clean Air Act, 42 U.S.C. §§ 7411(e) and 7412. Specifically, Winnebago is violating the New Source Performance Standards ("NSPS") General Provisions at 40 C.F.R. Part 60 Subpart A ("NSPS General Provisions"); the NSPS for Municipal Solid Waste ("MSW") Landfills at 40 C.F.R. Part 60, Subpart WWW ("NSPS Subpart WWW"); the NSPS for MSW Landfills at 40 C.F.R. Part 60, Subpart XXX ("NSPS Subpart XXX"); the National Emission Standards for Hazardous Air Pollutants ("NESHAP") General Provisions at 40 C.F.R. Part 63, Subpart A ("NESHAP General Provisions"); the NESHAP for MSW Landfills at 40 C.F.R. Part 63, Subpart AAAA ("the Landfills NESHAP"); and its Clean Air Act Permit Program ("CAAPP") Permit as follows:

I. Regulatory Authority

A. New Source Performance Standards: Subparts WWW and XXX

1. Section 111(b) of the CAA, 42 U.S.C. § 7411(b), requires EPA to promulgate performance standards for new stationary sources, including MSW landfills, to achieve the maximum emission reduction achievable for each source category.

2. Pursuant to Section 111(b) of the CAA, 42 U.S.C. § 7411(b), EPA promulgated the NSPS General Provisions, at 40 C.F.R. Part 60, Subpart A, which apply to owners or operators of any stationary source that contains an affected facility, the construction or modification of which is commenced after the date of publication of any NSPS standard applicable to the facility.

3. The NSPS General Provisions were first promulgated on December 28, 1971, at 36 Fed. Reg. 24877, and have been amended numerous times since then.

4. Pursuant to Section 111(b) of the CAA, 42 U.S.C. § 7411(b), on March 12, 1996, EPA promulgated the NSPS Subpart WWW at 40 C.F.R. Part 60, Subpart WWW. *See* 61 Fed. Reg. 9919.

5. The NSPS Subpart WWW applies to MSW landfills that commenced construction, reconstruction, or modification on or after May 30, 1991, but before July 18, 2014. 40 C.F.R. § 60.750(a).

6. The NSPS Subpart WWW, at 40 C.F.R. § 60.752(b)(2), provides several compliance options for MSW landfills with a design capacity equal to or greater than 2.5 million megagrams ("Mg") and 2.5 million cubic meters ("m^3"), and a calculated nonmethane organic compound ("NMOC") emission generation rate equal to or greater than 50 megagrams per year ("Mg/yr"). One option is for the affected facility to install and start up a gas collection and control system ("GCCS") that captures and destroys landfill gas in accordance with NSPS Subpart WWW requirements.

7. Pursuant to Section 111 of the CAA, 42 U.S.C. § 7411, on August 29, 2016, EPA promulgated the NSPS Subpart XXX at 40 C.F.R. Part 60, Subpart XXX. *See* 81 Fed. Reg. 59368.

8. The NSPS Subpart XXX applies to MSW landfills that commenced construction, reconstruction, or modification after July 17, 2014. 40 C.F.R. § 60.760(a). Certain provisions of the NSPS Subpart XXX, including the requirement to install and start up a collection and control system that captures the gas generated within the landfill, do not come into effect for an affected facility until a period of time after the commencement of construction, reconstruction, or modification of the landfill. For these specific provisions, the NSPS Subpart WWW applies until the NSPS Subpart XXX comes into effect.

9. The NSPS Subpart XXX, at 40 C.F.R. § 60.762(b)(2), provides several compliance options for MSW landfills with a design capacity equal to or greater than 2.5 million Mg and 2.5 million m^3, and a calculated NMOC emission rate equal to or greater than 34 Mg/yr. One option is for the affected facility to install and start up a GCCS that captures and destroys landfill gas in accordance with NSPS Subpart XXX.

B. <u>National Emission Standards for Hazardous Air Pollutants: Subpart AAAA</u>

10. Section 112(d) of the CAA, 42 U.S.C. § 7412(d), requires EPA to promulgate emission standards for sources of hazardous air pollutants ("HAPs"), including MSW landfills, to achieve the maximum emission reduction of HAPs achievable for each source category.

11. The HAPs emitted by MSW landfills include, but are not limited to, vinyl chloride, ethyl benzene, toluene, and benzene. Each of the HAPs emitted from MSW landfills can cause adverse health effects. *See* 68 Fed. Reg. 2227.

12. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA promulgated the NESHAP General Provisions, at 40 C.F.R. Part 63, Subpart A, which apply as specified in the relevant NESHAP, 40 C.F.R. § 63.1(a)(4)(i).

13. The NESHAP General Provisions were first promulgated on March 16, 1994, at 59 Fed. Reg. 12430, and have been amended numerous times since then.

14. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), on January 16, 2003, EPA promulgated the Landfills NESHAP at 40 C.F.R. Part 63, Subpart AAAA. *See* 68 Fed. Reg. 2227.

15. The NESHAP General Provisions that apply to Subpart AAAA are specified in 40 C.F.R. Part 63, Subpart AAAA, Table 1, and include the operation and maintenance requirements in 40 C.F.R. § 63.6(e).

16. EPA promulgated amendments to the Landfills NESHAP, at 40 C.F.R. Part 63, Subpart AAAA, on March 26, 2020. *See* 85 Fed. Reg. 17,244.

17. The Landfills NESHAP, at 40 C.F.R. § 63.1935(a)(3), provides, in pertinent part, that an owner or operator of an MSW landfill that has accepted waste since November 8, 1987, is subject to the Landfills NESHAP if the landfill has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m^3, and has estimated uncontrolled emissions equal to or greater than 50 Mg/yr of NMOC.

18. The Landfills NESHAP, at 40 C.F.R. § 63.1930(a), provides, in pertinent part, that before September 28, 2021, MSW landfills subject to the Landfills NESHAP must meet the requirements of 40 C.F.R. Part 60, Subpart WWW. Landfills must also meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions and must demonstrate compliance with the operating conditions by parameter monitoring results that are within the specified ranges.

19. Section 63.1930(b) of the Landfills NESHAP, 40 C.F.R. § 63.1930(b), provides, in pertinent part, that beginning no later than September 27, 2021, MSW landfills subject to the Landfills NESHAP must meet the requirements of Subpart AAAA.

C. Illinois Air Permitting

20. Title V of the CAA, 42 U.S.C. §§ 7661–7661f, establishes an operating permit program for major sources of air pollution.

21. Section 502(d) of the CAA, 42 U.S.C. § 7661a(d), requires each state to develop and submit a permit program meeting the requirements of Title V for approval by EPA.

22. Under 40 C.F.R. § 70.6(b), all terms and conditions contained in a permit issued under a permit program approved pursuant to Title V are federally enforceable under Section 113 of the CAA, 42 U.S.C. § 7413, unless the term or condition is not required under the CAA.

23. On November 30, 2001, EPA approved the Illinois Clean Air Act Permit Program (CAAPP), 415 ILCS 5/39.5, pursuant to subchapter V of the Clean Air Act (CAA). 66 Fed. Reg. 62946.

D. General NESHAP and NSPS Provisions

24. 40 C.F.R. §§ 60.11(d), 63.6(e), and 63.1955(c) require that at all times, including periods of startup, shutdown, and malfunction, owners and operators must, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with safety and good air pollution control practice for minimizing emissions.

25. 40 C.F.R. §§ 60.18(c)(4)(i), 63.11(b)(7)(i) require steam-assisted and nonassisted flares to be designed for and operated with an exit velocity of less than 18.3 meters per second ("m/sec") (60 feet/second ("ft/sec")), calculated using the methods specified in 40 C.F.R. §§ 60.18(f)(4), 63.11(b)(7)(i), except as provided in 40 C.F.R. §§ 60.18(c)(4)(ii)-(iii), 63.11(b)(7)(ii)-(iii).

26. 40 C.F.R. §§ 60.18(f)(4), 63.11(b)(7)(i) require the actual exit velocity of a flare to be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), calculated using Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

II. Findings and Violations

A. General Findings -- Applicability

27. At all times relevant to this Finding of Violation ("FOV"), Waste Connections ("you" or "Winnebago") owned the Winnebago Landfill Company.

28. At all times relevant to this FOV, the Winnebago Landfill Company owned and operated the Winnebago Landfill ("the Landfill"), as those terms are defined in 40 C.F.R. §§ 60.2 and 63.2.

29. The Landfill is an MSW landfill located at 8403 Lindenwood Road, Rockford, Illinois.

30. According to information Winnebago employees submitted to EPA, the Landfill was originally sited and first began accepting waste in 1972. Winnebago has expanded the Landfill four times since then, most recently in 2019.

31. According to information Winnebago employees submitted to EPA, at all times relevant to this FOV, the Landfill had an NMOC emission rate greater than 50 Mg/yr, calculated using the procedures specified at 40 C.F.R. §§ 60.754, 60.764, and a design capacity exceeding 2.5 million Mg and 2.5 million m^3, subjecting Winnebago to the requirements of NSPS Subpart WWW since at least January 1, 2017. Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills, 61 FR 9,919 (March 12, 1996).

32. Winnebago is a person as that term is defined in Section 302(e) of the CAA, 42 U.S.C. § 7602(e).

33. At all times relevant to this FOV, the Landfill was a "stationary source" as that term is defined in Section 111(a)(3) of the CAA, 42 U.S.C. § 7411(a)(3), because its operation emits air pollutants.

34. On June 25, 2015, the Illinois Environmental Protection Agency ("IEPA") issued Construction Permit No. 13090005 for the Western Expansion Unit ("WEU") ("2015 Construction Permit"), reflecting the increased permitted volume design capacity of the Landfill. Winnebago began placing waste at the WEU on July 1, 2015.

35. The WEU expansion qualified as a "modification" per 40 C.F.R. § 60.761, which defines "modification" as "an increase in the permitted volume design capacity of the landfill by either lateral or vertical expansion based on its permitted design capacity as of July 17, 2014. Modification does not occur until the owner or operator commences construction on the lateral or vertical expansion."

36. NSPS Subpart XXX came into effect on August 29, 2016. Standards of Performance for Municipal Solid Waste Landfills, 81 FR 59,368 (Aug. 29, 2016). Because the permitted design capacity increased after July 17, 2014, and construction commenced on the Modification before August 29, 2016, NSPS Subpart XXX became applicable to the Winnebago Landfill on August 29, 2016.

37. Based on the Landfill's NMOC emission rate of greater than 50 Mg/yr, the Landfill became subject to the requirement for all of its sub-units to have an NSPS Subpart XXX compliant GCCS by May 28, 2019, replacing NSPS Subpart WWW requirements. 40 C.F.R. §§ 60.762(b)(2)(ii), 40 C.F.R. § 60.767(b)(1)(i)(A).

38. For all dates relevant to the FOV prior to May 28, 2019 (the effective date of the Landfill's Subpart XXX GCCS compliance obligation), the Landfill was subject to the GCCS-compliance requirements of NSPS Subpart WWW.

39. The Landfill was subject to the Landfills NESHAP provisions as set out in 40 C.F.R. § 63.1930(a) for all dates applicable to this FOV before September 28, 2021, because it is an MSW landfill that accepted waste since November 8, 1987, had a design capacity equal to or greater than 2.5 million Mg and 2.5 million m^3, and had estimated uncontrolled emissions equal to or greater than 50 Mg/yr of NMOC.

40. The Landfill is subject to the requirements of the Landfills NESHAP as set out in 40 C.F.R. § 63.1930(b) for all dates applicable to this FOV starting September 28, 2021, because it is an MSW landfill that accepted waste since November 8, 1987, had a design capacity equal to or greater than 2.5 million Mg and 2.5 million m^3, and had estimated uncontrolled emissions equal to or greater than 50 Mg/yr of NMOC.

41. At all times relevant to this FOV, the Landfill was an "affected facility" and an "affected source" as those terms are defined in 40 C.F.R. §§ 60.2 and 63.2, respectively, because it is a stationary source the construction or modification of which commenced after the date of publication of any standard in Subpart A, namely the March 12, 1996 publication of Subpart WWW. 40 C.F.R. § 60.1(a).

42. On February 7, 2017, EPA conducted an on-site inspection of the Landfill, and Winnebago employees provided documents requested by EPA for review during the inspection.

43. On October 17, 2019, EPA conducted an on-site inspection of the Landfill ("the 2019 Inspection"), and Winnebago employees provided documents requested by EPA for review during the inspection.

44. On April 14, 2020, EPA issued Winnebago a Section 114 Information Request, 42 U.S.C. § 7414(a), ("the Information Request") for further documentation.

45. On June 16, 2020 and July 31, 2020, Winnebago submitted information in response to the Information Request.

46. According to information Winnebago employees submitted to EPA, the Landfill is made up of four noncontiguous units: the combined North Unit and South Expansion Unit ("NU," "SEU"), the North Expansion Unit ("NEU"), the West Expansion Unit ("WEU"), and the East Expansion Unit ("EEU").

47. On May 10, 2021, EPA conducted a remote virtual opening conference for a June 1, 2021 inspection and Winnebago employees provided documents requested by EPA for review. On June 1, 2021, EPA conducted the on-site component of this inspection, and performed surface emission monitoring ("SEM") of the NEU and WEU ("the 2021 Inspection").

48. As described by Winnebago staff at the time of the 2021 Inspection, Winnebago operates three flares at the Landfill, Flares #1, #3, and #4. These flares collectively share the burden of controlling the gas collected from the four units identified above. Previously, Winnebago also operated Flare #2 specifically for gas collected from the WEU.

49. Winnebago provided various GCCS design plans to EPA dating from between 1999 and 2019.

50. In order to comply with 40 C.F.R. §§ 60.752(b), 60.762(b), and 63.1959(b), Winnebago operates a GCCS at the Landfill to capture landfill gas generated by the Landfill. As of January 2021, the GCCS consisted of 280 vertical gas collectors, 15 horizontal gas collectors, a sulfur treatment system, and three open flares.

51. On April 8, 2015, IEPA and Winnebago entered into a Consent Order, subjecting the Landfill to enhanced SEM requirements ("Consent Order"). The Consent Order requires enhanced reporting, a reduced instantaneous threshold of 300 parts per million ("ppm"), and integrated concentration grid-average limit of 50 ppm for SEM at all landfill units. The Consent Order also increases SEM frequency to monthly at the NEU.

52. On December 23, 2015, IEPA issued a renewed CAAPP Permit, No. 9902102, for the Landfill (revised on January 30, 2018) ("CAAPP Permit").

53. The CAAPP Permit at Section 4.1.4-2(b) references and incorporates the Landfill's IEPA Consent Order enhanced SEM requirements and is federally enforceable. These enhanced SEM requirements continue in all subsequent modifications and renewals.

B. Failure to Minimize Off-site Migration of Subsurface Gas

54. 40 C.F.R. §§ 60.752(b)(2)(ii)(A)(4), 60.762(b)(2)(ii)(C)(4), and 63.1959(b)(2)(ii)(B)(4), require a compliant GCCS to minimize off-site migration of subsurface gas.

55. As part of its response to the Information Request, Winnebago employees provided data for monthly landfill gas migration probe monitoring events at the Landfill from 2017 through 2020.

56. According to the Information Request response, Winnebago operates approximately 80 boundary gas probes around the perimeter of the Landfill units to detect off-site migration of subsurface gas. Winnebago monitors the Landfill's boundary gas probes on a monthly basis.

57. As documented in the response to the Information Request, migration probe readings at the Landfill regularly show elevated levels of methane, with seven probes showing recurring readings greater than 400,000 ppm methane.

58. During the 2021 Inspection, Winnebago representatives stated that there was a gas probe presently showing gas migration and that Winnebago had no action plan to correct the issue.

59. By failing to address methane migrating outside of the GCCS collection areas, Winnebago failed to design, install, and start up the GCCS to minimize off-site migration of subsurface gas as required by 40 C.F.R. §§ 60.752(b)(2)(ii)(A)(4), 60.762(b)(2)(ii)(C)(4), and 63.1959(b)(2)(ii)(B)(4).

60. By failing to address methane migrating outside of the GCCS collection areas, Winnebago failed to maintain and operate the GCCS in a manner consistent with safety and good air pollution control practice for minimizing emissions as required by 40 C.F.R. §§ 60.11(d), 63.6(e), and 63.1955(c).

C. Failure to Perform Compliant SEM and Failure to Maintain Surface-Level Methane Concentration Below 500 ppm

61. 40 C.F.R. §§ 60.753(d), 60.763(d), and 63.1958(d)(1) require the owner or operator of an MSW landfill with a GCCS to operate the collection system so that the methane concentration is less than 500 ppm above background at the surface of the landfill.

62. Pursuant to 40 C.F.R. §§ 60.753(d), 60.763(d), and 63.1958(d)(1), to determine if the methane concentration is less than 500 ppm above background, the owner or operator must conduct surface testing (*e.g.*, SEM) around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover.

63. NSPS Subpart XXX at 40 C.F.R. § 60.763(d) and the Landfills NESHAP at 40 C.F.R. § 63.1958(d) clarify that locations where visible observations indicate elevated concentrations of landfill gas include cover penetrations, which should therefore be included in the SEM. "Cover penetration" is defined in 40 C.F.R. § 63.1990 as "a wellhead, a part of a landfill gas collection or operations system, and/or any other object that completely passes through the landfill cover."

64. NSPS Subpart XXX standards for GCCS, including SEM requirements, became effective at the Landfill by May 28, 2019. 40 C.F.R. § 60.762(b)(2)(ii).

65. 40 C.F.R. §§ 60.755(c)(3), 60.765(c)(3), and 63.1960(c)(3) require SEM to be performed in accordance with section 8.3.1 of Method 21, but with the probe inlet placed between 5 and 10 centimeters ("cm") of the ground. Section 8.3.1 of Method 21 states that the probe must be left at the location of maximum emissions reading for approximately twice the response time, and if the maximum observed reading is greater than the leak definition, the operator must record and report the exceedance.

66. Pursuant to 40 C.F.R. §§ 756(f), 766(f), and 63.1961(f), each owner or operator seeking to demonstrate compliance with the 500-ppm surface-methane operational standard in §§ 60.753(d), 60.763(d), and 63.1958(d), respectively, must monitor surface concentrations of methane according to the procedures in §§ 60.755(d), 60.765(c), 63.1960(c), respectively, and according to the instrument specifications in §§ 60.755(d), 60.765(d), 63.1960(d), respectively.

67. Winnebago performs SEM on a monthly basis at the NEU and on a quarterly basis at the WEU and NU/SEU. First-quarter monitoring occurs in January/February/March of each year, second-quarter monitoring occurs in April/May/June, third-quarter monitoring occurs in July/August/September, and fourth-quarter monitoring occurs in October/November/December.

68. From at least January 2016 to the first quarter of 2021, Winnebago technicians performing the SEM recorded the average instrument reading, rather than the maximum readings. Recording the average SEM instrument reading is not consistent with Section 8.3.1 of Method 21 and therefore violates 40 C.F.R. §§ 60.755(c), 60.765(c), and 63.1960(c), and the Landfill's 2015 CAAPP Permit Section 4.1.2.c.i.A.IV.

69. As observed by EPA inspectors during the 2021 Inspection, the probe used by Winnebago employees has a pipe surrounding the probe inlet extending 10 cm above the ground, so that the probe tip is 10 cm from the ground if and only if the pipe is placed flush on the ground. This would make it impossible to keep the probe tip within 10 cm of the ground while actually walking the SEM path. The pipe shields the probe tip and reduces mixing of the air, interfering with the technician's

ability to identify the point of highest emission after detecting an elevated reading. Performing SEM with the probe inlet greater than 10 cm above the ground and performing SEM in a way that interferes with the technician's ability to identify the location of maximum emissions reading both violate 40 C.F.R. §§ 60.755(c)(3), 60.765(c)(3), and 63.1960(c)(3).

70. The Landfill has a geomembrane scrim that covers large portions of the ground. During the 2021 Inspection, EPA observed that at many penetration points the scrim was pulled up against the base of the wells, making it impossible to place the probe inlet within 5 to 10 cm of the ground. Performing SEM with the probe inlet greater than 10 cm above the ground violates 40 C.F.R. §§ 60.755(c)(3), 60.765(c)(3), and 63.1960(c)(3), and the Landfill's 2015 CAAPP Permit Section 4.1.2.c.i.A.IV.

71. From 2016 through 2021, Winnebago employees reported zero exceedances in 56 out of 63 SEM surveys of the NEU provided to EPA. Over that period, the average number of exceedances that Winnebago reported was one per survey. Winnebago reported no exceedances at non-penetration locations of distressed vegetation, cover-integrity concerns, or other visual indicators of elevated emissions.

Table 1: NEU SEM Exceedances (July 2016 to April 2021)

Monitoring Event	Total 500 ppm exceedances detected
Jan-16	0
Feb-16	5
Mar-16	3
Apr-16	0
May-16	0
Jun-16	0
Jul-16	0
Aug-16	0
Sep-16	0
Oct-16	0
Nov-16	0
Dec-16	0
Jan-17	0
Feb-17	0
Mar-17	0
Apr-17	3
May-17	0
Jun-17	0
Jul-17	0
Aug-17	0
Sep-17	0
Oct-17	0
Nov-17	0
Dec-17	0
Jan-18	0
Feb-18	0

Mar-18	0
Apr-18	0
May-18	0
Jun-18	0
Jul-18	0
Aug-18	0
Sep-18	0
Oct-18	0
Nov-18	0
Dec-18	0
Jan-19	0
Feb-19	0
Mar-19	0
Apr-19	0
May-19	0
Jun-19	0
Jul-19	0
Aug-19	0
Sep-19	0
Oct-19	0
Nov-19	0
Dec-19	0
Jan-20	0
Feb-20	0
Mar-20	0
Apr-20	0
May-20	0
Jun-20	0
Jul-20	0
Aug-20	Not provided
Sep-20	0
Oct-20	0
Nov-20	0
Dec-20	0
Jan-21	17
Feb-21	11
Mar-21	14
Apr-21	9

72. During EPA's 2021 Inspection, EPA performed SEM on parts of the NEU and recorded 32 SEM exceedances above 300 ppm, of which 24 were above 500 ppm. EPA recorded exceedances both at penetration points and within the interior of the Landfill, with 12 exceedances occuring at wellheads.

73. From 2016 through 2021, Winnebago employees reported zero exceedances in 12 out of 19 SEM surveys of the WEU provided to EPA. Over that period, Winnebago employees reported an

average of three exceedances per survey, not considering the relatively high number of exceedances in the second and third quarters of 2019. Winnebago reported no exceedances at non-penetration locations of distressed vegetation, cover-integrity concerns, or other visual indicators of elevated emissions.

Table 2: WEU SEM Exceedances (First Quarter 2016 to First Quarter 2021)

Monitoring Event	Total 500 ppm exceedances detected
Q1 2016	not provided
Q2 2016	0
Q3 2016	0
Q4 2016	0
Q1 2017	0
Q2 2017	0
Q3 2017	0
Q4 2017	5
Q1 2018	0
Q2 2018	0
Q3 2018	0
Q4 2018	26
Q1 2019	4
Q2 2019	71
Q3 2019	159
Q4 2019	13
Q1 2020	0
Q2 2020	0
Q3 2020	not provided
Q4 2020	0
Q1 2021	8

74. During the 2021 Inspection, EPA performed SEM on parts of the WEU and recorded 36 SEM exceedances above 300 ppm, of which 35 were above 500 ppm. EPA recorded exceedances both at penetration points and within the interior of the Landfill, with 27 exceedances occurring at wellheads.

75. The discrepancy between EPA-documented surface-emission exceedances and Winnebago's historic records of methane surveys, Winnebago's recording of the average instrument readings rather than maximum readings, and the pulled-up scrim and probe-inlet pipe preventing the probe inlet from being placed within 5 to 10 centimeters of the ground during SEM all indicate that Winnebago has failed to properly conduct Method 21 and SEM for at least five years, in violation of 40 C.F.R. §§ 60.755(c), 60.765(c), 63.1960(c), and its CAAPP Permit.

76. Due to noncompliance with SEM procedure outlined in 40 C.F.R §§ 60.755(c)(3), 60.765(c)(3), and 63.1960(c)(3), Winnebago is in violation of 40 C.F.R. §§ 756(f), 766(f), and 63.1961(f), respectively, and consequently cannot demonstrate compliance with the 500-ppm surface-methane operational standard outlined in 40 C.F.R. §§ 60.753(d), 60.763(d), 63.1958(d), since at least January 20, 2016.

77. Due to noncompliance with SEM procedure since at least January 20, 2016, and Winnebago's consequent inability to demonstrate compliance with the 500-ppm surface-methane operational standard outlined in 40 C.F.R. §§ 60.753(d), 60.763(d), 63.1958(d), Winnebago failed to operate the collection system so that the instantaneous methane concentration is less than 300 ppm and its integrated concentration is less than 50 ppm at the surface of the landfill, in violation of its CAAPP Permit.

78. Winnebago's historical failure to properly conduct SEM strongly suggests that it has uncounted and unreported surface-emission exceedances, the data for which do not exist because of Winnebago's failure to properly conduct SEM. These uncounted and unreported surface-emission exceedances would all be violations of 40 C.F.R. §§ 60.753(d), 60.763(d), and 63.1958(d)(1).

D. Failure to Allow Gas Entry, Address the Occurrence of Water, and to Maintain and Operate Good Air Pollution Control Equipment

79. 40 C.F.R. §§ 60.759(b), 60.769(b), and 63.1962(b) require landfill gas collection devices to allow gas entry without head loss sufficient to impair performance across the intended extent of control and address the occurrence of water in the landfill.

80. 40 CFR §§ 60.757(c), 60.767(c), and 63.1981(d) require owners or operators of affected facilities to create and implement design plans for the installation and operation of an owner's GCCS in compliance with 40 C.F.R. §§ 60.752(b)(2), 60.762(b)(2), and 63.1959(b)(2).

81. Winnebago has provided EPA with its design plans for each of its units.

82. The NEU GCCS Design Plan states that, to comply with 40 C.F.R. §§ 60.759(b) and 63.1962(b), "[i]f perched liquids are observed within the extraction wells after installation, and it is determined that the liquid level is restrictive to efficient LFG extraction, the leachate level will be reduced. This is typically accomplished by periodic pumping of the liquids using either electric or pneumatic pumping systems." Similar language is also present in the EEU GCCS Design Plan and the NU/SEU GCCS Design Plan for 40 C.F.R. §§ 60.759(b), 60.769(b), and/or 63.1962(b), as applicable at

the time. The WEU GCCS Design Plan makes no statement regarding how Winnebago would demonstrate compliance with 40 C.F.R. §§ 60.759(b), 60.769(b), or 63.1962(b).

83. Winnebago's 2015 Standard Operating Procedures Manual for Landfill Gas Collection and Control System for the Landfill ("SOP") states that, should any well be detected to have greater than 50% of the well screen saturated, it should be equipped with a dewatering pump to discharge the liquid to the leachate collection system. The SOP states that "controlling liquid buildup in the LFG wells is required for effective LFG management and Best Management Practices." SOP at 19.

84. Based on the quarterly surveys of well water levels at the Landfill's NEU between Second Quarter 2018 and First Quarter 2021, 73 to 95%, with an average of 84%, of wells per survey were more than 50% obstructed by water. In the same period, 5 to 38%, with an average of 16%, of wells were 100% obstructed. These well-water-obstruction rates represent Winnebago's failure to address the occurrence of water in the Landfill and allow for gas entry into the collectors, which is inconsistent with its 2015 GCCS SOP and GCCS Design Plans and violates 40 C.F.R. §§ 60.759(b), 60.769(b), and 63.1962(b).

85. Based on the 2021 First Quarter Survey of the WEU, 21 wells, or 39% of wells with measurements, were more than 50% obstructed by water. Six additional wells (11%) were 100% obstructed. These well-water-obstruction rates illustrate Winnebago's failure to address the occurrence of water in the Landfill and allow for gas entry into the collectors, which is inconsistent with its 2015 GCCS SOP and GCCS Design Plans and violates 40 C.F.R. §§ 60.759(b), 60.769(b), and 63.1962(b).

86. At the 2021 Inspection, EPA inspectors detected 39 exceedances of the 500-ppm surface-methane standard at the base of gas-collection wellheads. Of these, 21 exceedances were at wellheads that were more than 50% obstructed by water according to Winnebago's most recent survey. Five of these 21 were 100% obstructed. These surface-methane-standard exceedances indicate that well-water obstruction is interfering with gas-well performance and that the flooded wells are inconsistent with the 2015 GCCS SOP and the various GCCS Design Plans, and violate 40 C.F.R. §§ 60.759(b), 60.769(b), and 63.1962(b).

87. During the 2021 Inspection, Winnebago staff stated that they have no prescriptive guide for determining if a dewatering pump would be installed, despite the SOP providing dewatering-pump-installation protocol. Winnebago representatives also stated that Winnebago would not install dewatering pumps at wells with long term 100% obstruction if the wells were meeting monthly wellhead monitoring parameters and if no SEM hits were found nearby.

88. Given Winnebago's failure to perform compliant SEM, Winnebago's practice of not dewatering flooded wells is a failure to address the occurrence of water in the landfill and prevents gas entry into the gas collectors. These actions are inconsistent with Winnebago's 2015 GCCS SOP and the various GCCS Design Plans, and violate 40 C.F.R. §§ 60.759(b), 60.769(b), and 63.1962(b).

89. By failing to address flooded wells, Winnebago is also failing to maintain and operate air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions, in violation of 40 C.F.R. §§ 60.11(d), 63.6(e)(1)(i), and 63.1955(c).

E. Failure to Operate the GCCS With Negative Pressure

90. 40 C.F.R. §§ 60.753(b), 60.763(b), and 63.1958(b) require a GCCS to be operated with negative pressure at each wellhead except for the three specifically enumerated exceptions of instances

of fire/increased well temperature, use of geomembrane/synthetic cover with pressure limits in the design plan, and decommissioned wells with design changes approved by the Administrator.

i. Sulfur-Treatment-System-Related Positive Pressure

91. During the 2021 Inspection, Winnebago representatives stated that Winnebago operates two pairs of dry-media boxes to remove sulfur gas from some of the landfill gas. Winnebago's landfill gas is routed through one pair of boxes until breakthrough is detected, prompting gas to be routed to the next pair of dry media boxes.

92. According to response to the Information Request, on or about June 5, 2020, Winnebago installed the second pair of dry-media boxes and reconfigured the landfill gas flow to the sulfur treatment system so that the four boxes operate in parallel. Winnebago reported that this configuration allowed the GCCS to remain in operation while staff replace the saturated media in each box.

93. According to Winnebago's Semi-annual Compliance Monitoring Reports, required by their CAAPP Permit, and statements made by Winnebago representatives during the 2021 Inspection, Winnebago shuts off gas collection for 8 to 14 hours to change the media from all boxes at once, allowing positive pressure to build throughout the gas-collection system. Winnebago representatives estimated that the GCCS is shut down to perform this media change approximately every two weeks.

94. By failing to maintain and operate the sulfur treatment system to allow for continuous collection and control of landfill gas, Winnebago is failing to maintain and operate air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions, in violation of 40 C.F.R. §§ 60.11(d), 63.6(e), and 63.1955(c).

95. By allowing the entire Landfill to regularly develop positive pressure during collection shutdowns, Winnebago is in violation of 40 C.F.R. §§ 60.753(b), 60.763(b), and 63.1958(b).

ii. Other GCCS-Shutdown-Related Positive Pressure

96. As part of the document request and review from the 2019 Inspection, Winnebago employees provided records of flow from each Landfill unit to each flare.

97. According to flare flow records, in April 2018, Winnebago did not collect gas from the WEU for over 350 hours, approximately half of the month.

98. Winnebago did not report the gas-collection shutdowns for the WEU in its Semi-Annual Compliance Monitoring Report for January through June 2018.

99. By shutting down gas collection on the WEU in April 2018, Winnebago failed to maintain negative pressure at each wellhead, thereby violating 40 C.F.R. §§ 60.753(b), 60.763(b), and 63.1958(b).

100. According to flare flow records, in 2019, Winnebago shut down gas collection for at least 27 days from the NU and 15 days from the SEU.

101. In its Second 2019 Semi-Annual Compliance Monitoring Report, Winnebago stated that it shut down gas collection on the NU and SEU because the Landfill was experiencing odors, migration, and surface emissions compliance issues on the WEU, prompting Winnebago to increase vacuum on the

WEU at the expense of the NU and SEU, presumably due to insufficient blower/control device capacity to maintain compliant operations and a sufficient extraction rate at all units at this time.

102. By shutting down gas collection on the NU and SEU in 2019, Winnebago failed to maintain negative pressure at each wellhead, thereby violating 40 C.F.R. §§ 60.753(b), 60.763(b), and 63.1958(b).

F. Failure to Control All Collected Gas

103. 40 C.F.R. §§ 60.752(b)(2)(iii), 60.762(b)(2)(iii), and 63.1959(b)(2)(iii) require the owner or operator of a MSW landfill to route all collected gas to a compliant control system.

104. During the 2021 Inspection, EPA asked Winnebago representatives to explain why they did not stagger the changeouts of the sulfur treatment system to avoid having to shutdown collection. In response, Winnebago staff explained that the sulfur content of the landfill gas degrades gas-valve seals in the system so that any time gas is collected and routed through the system, it leaks landfill gas in sufficient enough quantities to produce a hydrogen-sulfide hazard for workers. As a result, Winnebago shuts down the GCCS entirely to facilitate changeouts, rather than staggering changeouts and allowing continuous collection.

105. Winnebago's failure to continuously route all collected gas to a compliant control system violates 40 C.F.R. §§ 60.752(b)(2)(iii), 60.762(b)(2)(iii), and 63.1959(b)(2)(iii).

106. By allowing a hydrogen-sulfide safety hazard to occur due to degraded equipment, Winnebago is also failing to maintain and operate air pollution control equipment in a manner consistent with safety and good air pollution control practice for minimizing emissions, in violation of 40 C.F.R. §§ 60.11(d), 63.6(e), and 63.1955(c).

G. Failure to Properly Operate Flares

107. NSPS Subparts WWW and XXX, at 40 C.F.R. §§ 60.752(b)(2)(iii)(A) and 60.762(b)(2)(iii)(A), respectively, require a non-enclosed flare, which controls landfill gas, to be designed and operated in accordance with the parameters established in 40 C.F.R. § 60.18. The Landfills NESHAP has similar provisions at 40 C.F.R. § 63.1959(b)(2)(iii)(A) referencing 40 C.F.R. § 63.11(b).

108. According to the 2021 Inspection and the Landfill's various Semi-Annual SSM Reports, Winnebago designed Flares 3 and 4 to meet the performance requirements of 40 C.F.R. § 60.18 at flows up to 4,000 standard cubic feet per minute ("scfm"). Winnebago designed Flare 1 to meet the performance requirements of 40 C.F.R. § 60.18 at flows up to 2,500 scfm.

109. According to the Landfill's 2020 Semi-Annual SSM Report, Flare 1 was inoperative for 3,230 hours, or 37% of the year. Of this time, Winnebago attributed 458 hours to repeated "blower malfunctions," 299 hours to "high winds," and 2,445.9 hours to repeated "VFD malfunctions" (undefined), one of which lasted for 2,253.4 hours, or almost 94 days. No other flares on site had similar frequency of outage for "high winds."[1] In response to these downtimes at Flare 1, Winnebago increased flow loads at Flares 3 and 4.

[1] These periods of downtime are frequent and repeated enough that they do not qualify as "infrequent" or "not reasonably preventable," and thus do not qualify as malfunction events. 40 C.F.R. §§ 60.2 and

110. According to Winnebago's flare flow data for the Landfill, in May and June 2020, Flare 3 operated above 4,000 scfm for 104 hours, or 7% of its operation time in those months and the maximum flow rate at Flare 3 was 4,394 scfm. Winnebago's operation of Flare 3 in excess of its stated 4,000 scfm capacity in May and June 2020 is a violation of 40 C.F.R. §§ 60.18, 63.11(b) and therefore also 40 C.F.R. §§ 60.752(b)(2)(iii)(A), 60.762(b)(2)(iii)(A), and 63.1959(b)(2)(iii)(A).

111. According to Winnebago's flare flow data for the Landfill, from October 2019 through December 2020, Winnebago operated Flare 4 above 4,000 scfm for 2947.5 hours, or 28% of its operation time in that period and the maximum flow rate at Flare 4 was 4,786 scfm. In October 2020 alone, Winnebago operated Flare 4 above capacity for 76% of its operating hours. Winnebago's operation of Flare 4 in excess of its stated 4,000 scfm capacity from October 2019 to December 2020 is a violation of 40 C.F.R. §§ 60.18, 63.11(b) and therefore also of 40 C.F.R. §§ 60.752(b)(2)(iii)(A), 60.762(b)(2)(iii)(A), and 63.1959(b)(2)(iii)(A).

112. According to Winnebago's 2021 flare flow data for the Landfill, from January 2021 to April 2021, Winnebago operated Flare 4 above 4,000 scfm for 124.25 hours, or 4.5% of its operation time and the maximum flow rate at Flare 4 was of 4,417 scfm. Winnebago's operation of Flare 4 in excess of its stated 4,000 scfm capacity from January 2021 to April 2021 is a violation of 40 C.F.R. §§ 60.18, 63.11(b) and therefore also 40 C.F.R. §§ 60.752(b)(2)(iii)(A), 60.762(b)(2)(iii)(A), and 63.1959(b)(2)(iii)(A).

113. Winnebago's operation of Flare 3 in May and June 2020 above its stated 4,000-scfm capacity results in an exit velocity greater than 18.3 m/sec (60 ft/sec), calculated using methods specified in 40 C.F.R. §§ 60.18(f)(4), 63.11(b)(7)(i), and is a violation of 40 C.F.R. §§ 60.18(c)(4)(i), 63.11(b)(7)(i).

114. Winnebago's operation of Flare 4 from October 2019 through December 2020 and January 2021 to April 2021 above its stated 4,000-scfm capacity results in an exit velocity greater than 18.3 m/sec (60 ft/sec), calculated using methods specified in 40 C.F.R. §§ 60.18(f)(4), 63.11(b)(7)(i), and is a violation of 40 C.F.R. §§ 60.18(c)(4)(i), 63.11(b)(7)(i).

115. During the 2021 Inspection, Winnebago employees stated that they were collecting roughly 8,000 scfm of gas from the Landfill. The Landfill's flare flow records substantiate this figure and document flows up to and greater than 8,000 scfm in 2020 and 2021.

116. As described above, when any one of the Landfill's flares is not operational, the Landfill does not have adequate backup control devices with sufficient capacity to control the excess landfill gas. These periods of flare downtime are therefore violations of 40 C.F.R. §§ 60.752(b)(2)(iii)(A), 60.762(b)(2)(iii)(A).

63.2 define "malfunction" as "any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner" and states that "[f]ailures that are caused in part by poor maintenance or careless operation are not malfunctions." 40 C.F.R. §§ 60.755(e), 60.765(e), and 63.1960(e) outline varying regulatory impacts of malfunctions, but none are relevant because the events described in this paragraph do not qualify as malfunctions.

III. Environmental Impact of Violations

117. The violations described above have caused or can cause excess emissions of hydrogen sulfide, volatile hazardous air pollutants ("VHAP"), volatile organic compounds ("VOC"), and methane.

118. Hydrogen sulfide can lead to irritation, headaches, nausea, and respiratory stress. Hydrogen sulfide also significantly contributes to local odor nuisances reducing surrounding quality of life.

119. VOCs and methane contribute to ground-level ozone formation. Breathing ozone contributes to a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level ozone can also reduce lung function and inflame lung tissue. Repeated exposure may permanently scar lung tissue.

120. VHAP emissions can lead to a variety of adverse health effects including cancer, respiratory irritation, and damage to the nervous system.

121. Methane emissions at the concentrations observed can lead to fires or explosions as it accumulates on or off site. Methane is a very potent greenhouse gas and a leading contributor to global climate change.

122. Numerous members of the public have submitted odor complaints to Winnebago regarding the Landfill. In 2020, the Landfill received over 70 odor complaints.

MICHAEL HARRIS

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